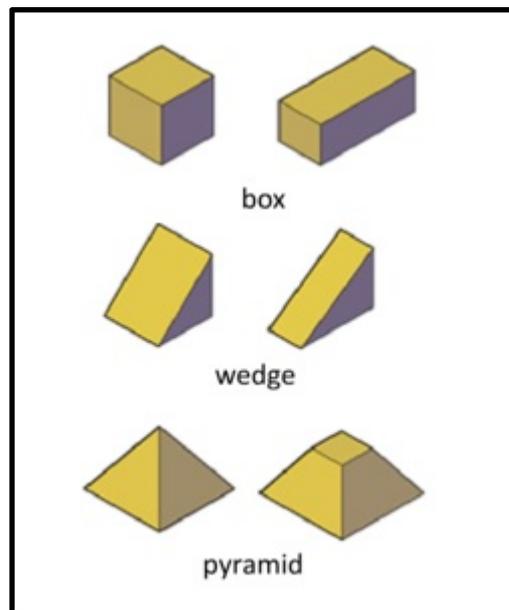


Lectorial: Rapid Engineering

STL File Structure

Once you have completed the SolidWorks Tutorials, you may like to experiment with SolidWorks in order gain familiarity with STL ASCII files and their structure.



1. Select a simple solid primitive from the ones shown above or come up with your own.
2. Ensure that your primitive selection meets the Euler Characteristic $F = E + V = 2$.
3. Assign absolute dimensions (units are not relevant) to the edges and assign a coordinate axis system.
You may like to sketch your simple solid primitive on the isometric graph paper provided overleaf.
4. Use Notepad or a suitable text editor to write an ASCII file called *my_primitive_name.stl* file of your primitive selection for each facet.
5. Draw your primitive selection in SolidWorks (note that your coordinate axis system matches your previously assigned).
6. Save your SolidWorks generated primitive as a *primitive_name.prt* file and a *primitive_name.stl* file in ASCII format. (HINT: Save As > *.stl > Select Options... > Select ASCII and “Fine Resolution”).
7. Compare the two files and note and correct any discrepancies.
8. Once you are satisfied with you effort, in SolidWorks goto File > Open > locate *my_primitive_name.stl* (this is the file you have manually written) and open it. Say yes to run “Import Diagnosis on This Part?”